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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,778	12/27/2001	Jae Wook Song	HI-0058	9762

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EXAMINER	
FAN, CHIEH M	
ART UNIT	**PAPER NUMBER**
2638	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/026,778	SONG, JAE WOOK	
	Examiner	Art Unit	
	Chieh M. Fan	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,4 and 7* is/are allowed.

6)☒ Claim(s) *3,5,6 and 8-18* is/are rejected.

7)☒ Claim(s) *2,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the size of the letters or reference characters in Figs 3-5 is too small. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2 and 12-20 are objected to because of the following informalities:

Regarding claim 2, "inputted" in line 2 should be changed to --- received ---.

Regarding claim 12, "the new energy values" in line 5 should be changed to --- the newly saved plural energy values ---.

Regarding claim 19, "the input value" in line 12 should be changed to --- the input energy value ---; further, the variable "M" in line 7 needs to be defined, e.g. "M is an integer".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 5, 6 and 8-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 5, the claimed step of selecting apparently is directed to the first multiplexers 219a-219e in Fig. 5. As shown in Fig. 5, the first multiplexer 219a performs the selecting step based on a high ranked mask signal (i.e., output from the comparator 216a) and the rest of first multiplexers 219b-219e performs the selecting step based on a high ranked enable signal (i.e. output from controller 213b-213e). None of the first multiplexers operates based on the claimed "the enable control signal" (i.e., output from controller 213b for the first multiplexer 219a and output from controller 213c-213f for the first multiplexers 219b-219e). Therefore, the specification fails to teach the claimed limitation.

Regarding claim 8, claim 8 recites "repeating steps (c) through in step (f) from a second peak detector up to the Mth peak detector" in step (f), which implies that the steps (a)-(e) before step (f) is performed in the first peak detector. However, according to Fig. 4, the first detector 210a never performs the claimed steps (c)-(e). Next, let us shift the attention to the second peak detector (that is, 210b in Fig. 4). According to step (f) of the claim, the second peak detector needs to perform steps (c)-(e). However, as shown in Fig. 4, the second peak detector 210b never outputs a mask signal from a next peak detector based on the comparison result in the first peak detector as claimed in step (c). Similarly, the specification does not support step (c) for each of the third to the Mth peak detector. Furthermore, each of the second peak detector 210b through Mth peak detector 210f only saves one of the input energy value and the energy value output from the first register (222a-222e) of a previous peak detector (210a-21oe). For example, the third peak detector 210c saves one of the input energy value and the

energy value output from the first register 222b of the second peak detector. Therefore, the specification does not support claimed step (e) for the second peak detector up to the Mth peak detector.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3, 8-11 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, it is not clear which limitation is claimed "a prescribed value."

Regarding claim 8, "the register" in line 2 of step (e) has no antecedent basis.

Regarding claim 16, claims recites "an enable status of each register", which implies there are more than one register. However, the word "register" or "registers" has never occurred before in claim 16 or its parent claim 12. Therefore, "each register" has no antecedent basis in the claim. It is not clear how to interpret the limitation "each register".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Walley (U.S. Patent No. 5,892,792).

Regarding claim 12, Walley teaches a multi-peak detector of a mobile telecommunication system, comprising: means for cumulatively saving a plurality of energy values that are calculated by a matched filter and a squarer (440 in Fig. 9, particularly see "matched filter output", 600, 800 in Fig. 9; 600 in Fig. 10; 802, 804 in Fig. 15; note that the energy detector 600 is considered to be equivalent to a squarer since it approximates the energy that is equal to the mathematic expression in line 31 of col. 8); and for outputting newly saved plural energy means values out of the accumulated plural energy values (col. 11, lines 13-19), the new energy values being selected based on a high-ranked mask signal (output of comparator 820 in Fig. 15) and a high-ranked enable control signal (input to "load" in each register 802, 804 in Fig. 15).

Regarding claim 13, wherein the means for outputting the newly saved plural energy values comprises a plurality of outputting means (802, 804 in Fig. 15).

Regarding claim 14, the claimed "wherein a number of energy values that are outputted from the means for outputting the newly saved plural energy values is smaller than a number of the accumulated plural energy values because of a maskability of the means for outputting" is inherent since each of the registers 802 and 804 outputs a peak energy value, which is only one of the accumulated plural energy values.

Regarding claim 15, Walley also teaches a corresponding index (Window[2,3,4] in Fig. 15; col. 11, lines 12-16) is assigned to each of the accumulated plural energy values.

Allowable Subject Matter

9. Claims 1, 4, 7 are allowed. Claims 2, 19 and 20 would be allowable if rewritten to overcome the claim objection above. Claims 1, 2, 4, and 7 are allowable because the prior art of record does not teach the steps of generating a mask signal from the comparison; deciding whether to save the accumulated energy values based on a high-ranked mask signal; and outputting a plurality of ranked energy values. Claims 19 and 20 are allowable because the prior art of record does not teach a delayer that receives a clock signal and a high-ranked mask signal, a comparator that receives an input energy value and a first previous energy value and outputs a first control signal, a first multiplexer that receives the input energy value and a second previous energy value, a first register connected to receive an output of the first multiplexer, the clock signal and an enable control signal, and an enable controller that receives an output from the comparator, a delayed high-ranked mask signal from the delayer and a mask signal.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lipa (U.S. Patent No. 5,530,716, see Fig. 10), Izumi (U.S. Patent No. 5,949,828, see Fig. 5), Poon et al. (US 2003/0128747, see Fig. 2), Matsuyama et al. (US2004/0170238, see Fig. 6).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M. Fan whose telephone number is (571) 272-3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chieh M Fan
Primary Examiner
Art Unit 2638

September 17, 2005